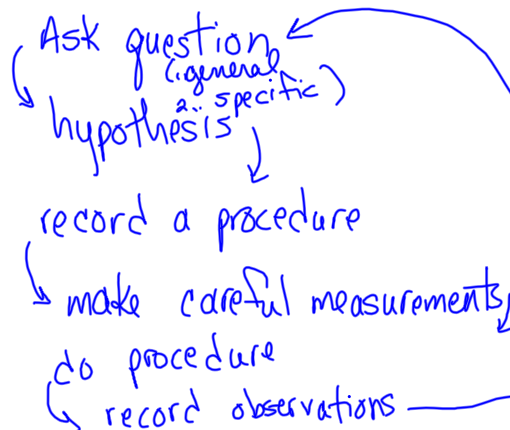


Chemical Reactions Introduction

Reactants and Products

Sodium bicarbonate NaHCO_3
 Calcium chloride CaCl_2
 Water H_2O
 Bromothymol blue solution $\text{C}_{27}\text{H}_{28}\text{Br}_2\text{O}_5\text{S}$



☐ Results ☐
 Questions ☐
☐ ~~Reactants~~ ☐
 Chemical formulas ☐
☐ Info ☐

5/12/08

$\text{Ca}(\text{OH})_2$ (subscript - how many atoms)
 2NaHCO_3 (Coefficient - tells how many molecules)

Calcium - 1
 Oxygen - 2
 Hydrogen - 2
 Try - $3\text{Ca}(\text{OH})_2$

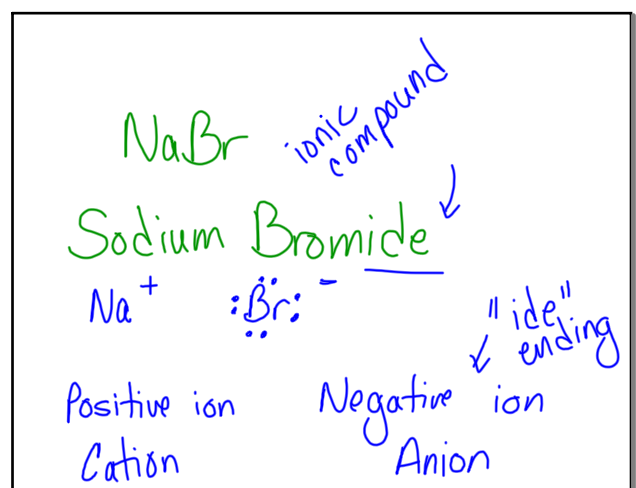
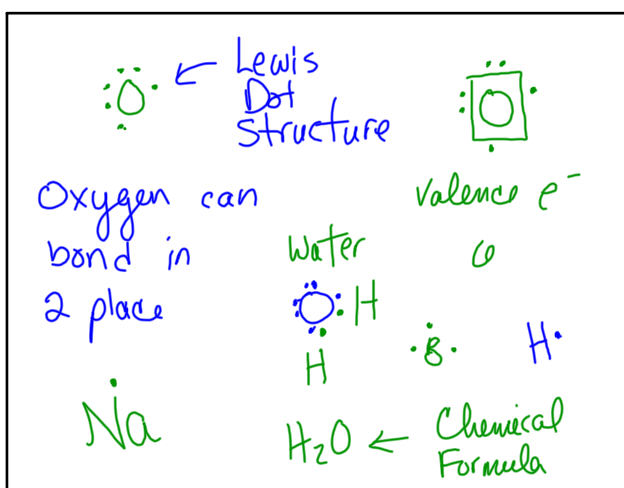
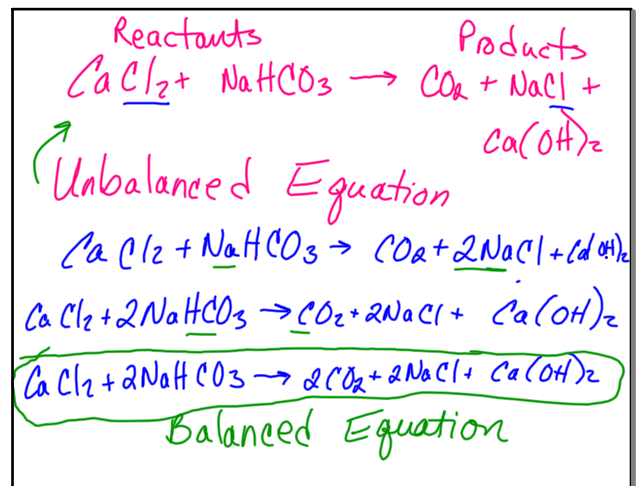
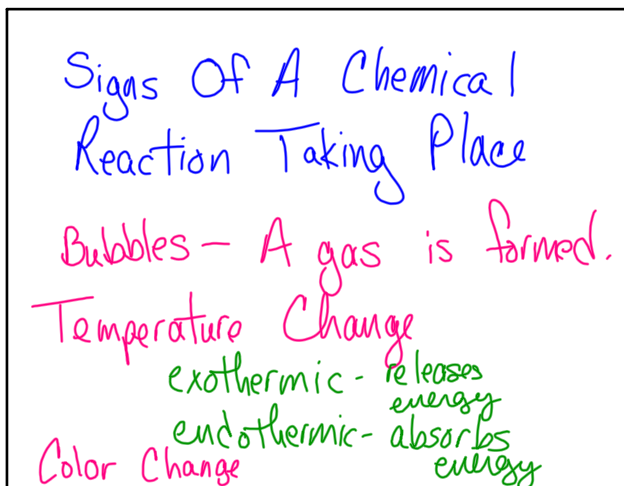
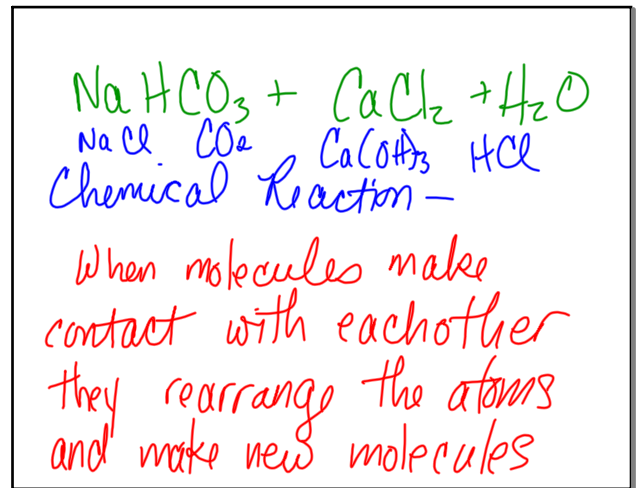
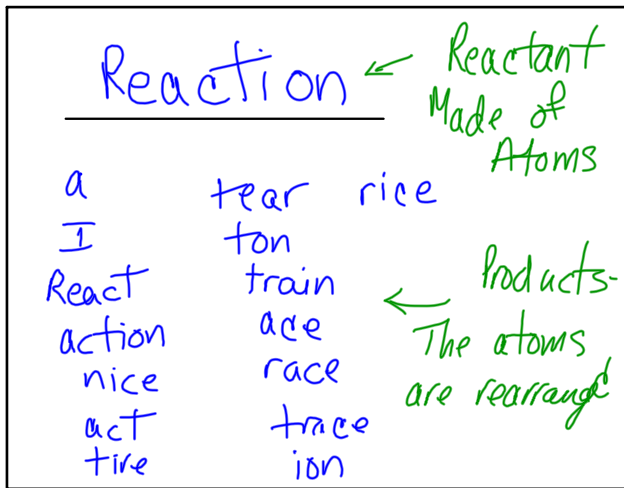
Sodium - 2
 Hydrogen - 2
 Carbon - 2
 Oxygen - 6

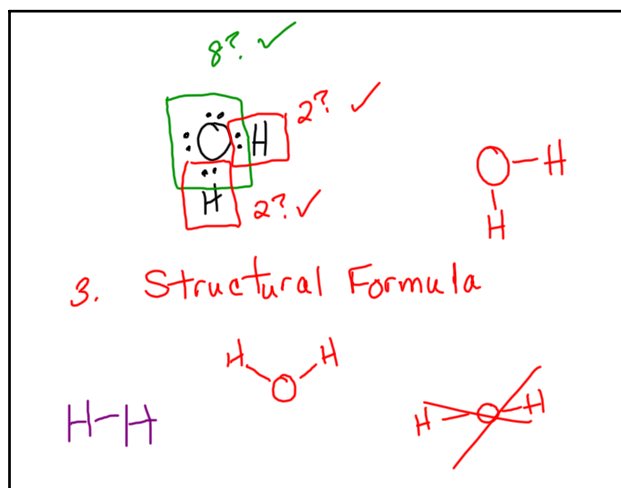
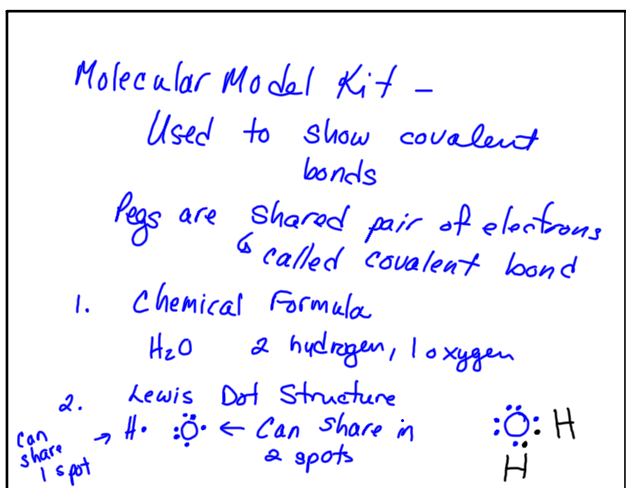
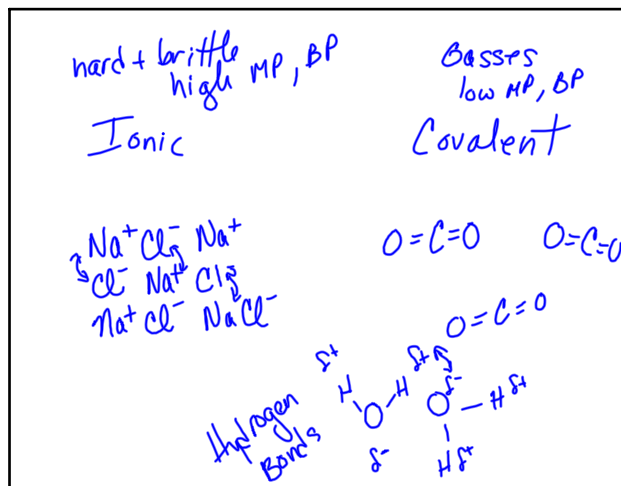
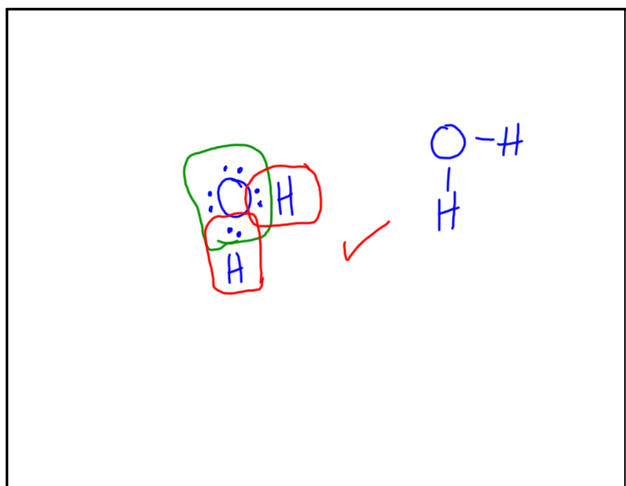
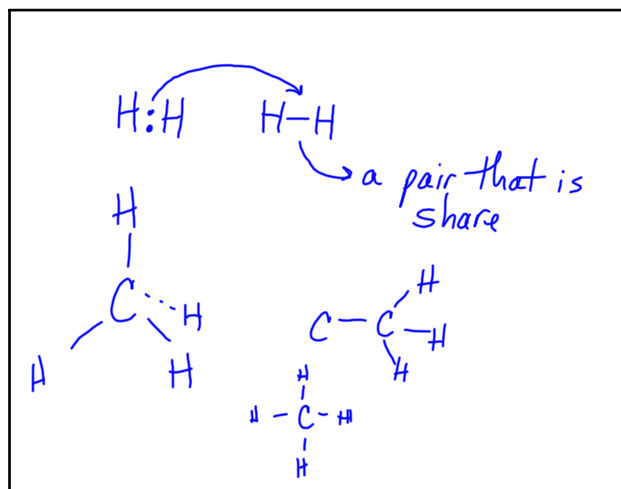
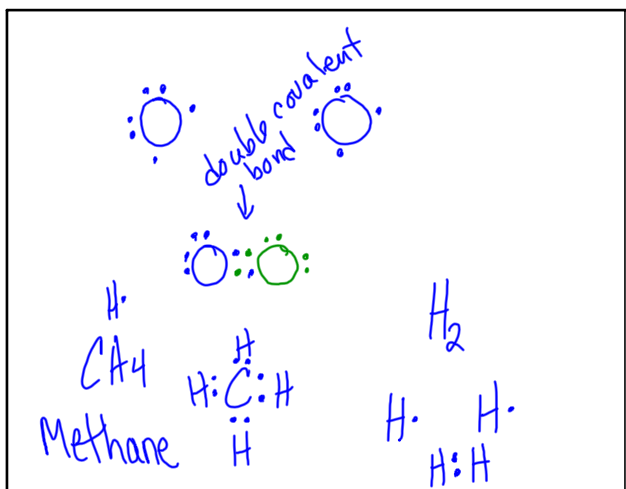
$3\text{Ca}(\text{OH})_2$

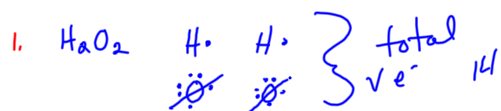
Calcium - 3
 Oxygen - 6
 Hydrogen - 6

Possible Combinations

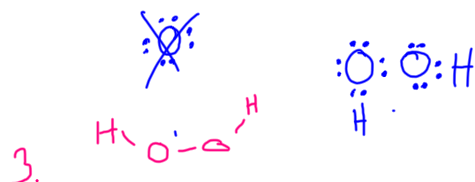
Reactants	Observations
$\text{NaHCO}_3 + \text{B.B.}$	
$\text{NaHCO}_3 + \text{CaCl}_2$	
$\text{NaHCO}_3 + \text{H}_2\text{O}$	
$\text{CaCl}_2 + \text{H}_2\text{O}$	
$\text{CaCl}_2 + \text{B.B.}$	
$\text{NaHCO}_3 + \text{CaCl}_2 + \text{B.B.}$	
$\text{NaHCO}_3 + \text{CaCl}_2 + \text{H}_2\text{O}$	



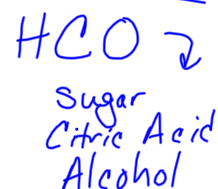
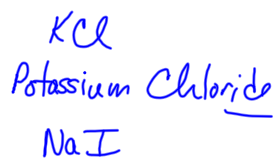




2. Lewis dot structure



Ionic Bonds— Bonding —
form between involves only
a metal and a valence e^-
non metal



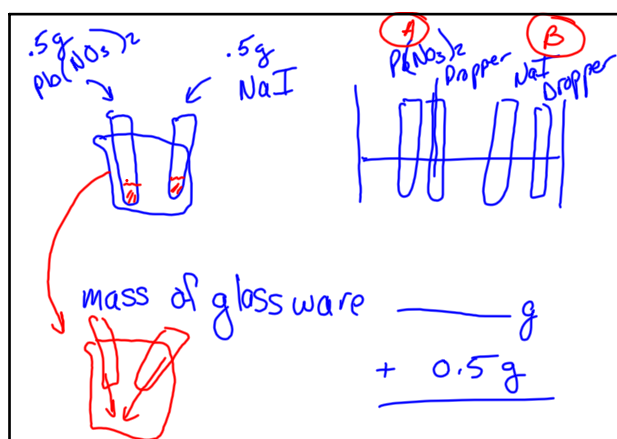
Group #

1	2	3-12	13	14										
V	1	2	?	3	4	5	6	7	8	9	10	11	12	13

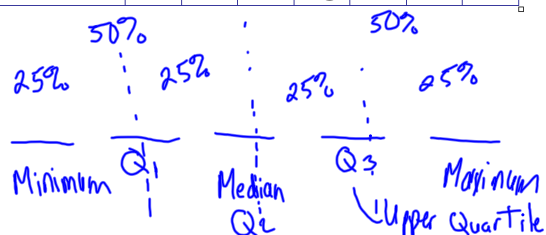
$$\begin{array}{r} +19P \\ -18E \\ \hline +1 \end{array}$$

$$\text{Na} \cdot \quad \cdot \ddot{\text{Cl}} \cdot$$

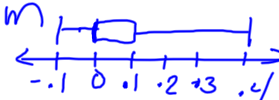
$$\text{Na}^+ \quad \text{Cl}^-$$



Mass of reactants	Change in mass (g)						
	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Mean
1.0g (0.5g of each reactant)	0.1	+0.1	+0.1	0.1	0.0	0.1	0.0
2.0g (1.0g of each reactant)	0.2	0.0	-0.1	0.0	0.0	0.0	0.0
3.0g (1.5g of each reactant)	0.4	0.0	+0.2	0.0	0.0	0.0	+0.1
4.0g (2.0g of each reactant)	0.2	0.0	0.0	0.0	0.0	0.0	0.0



\bar{x} Mean

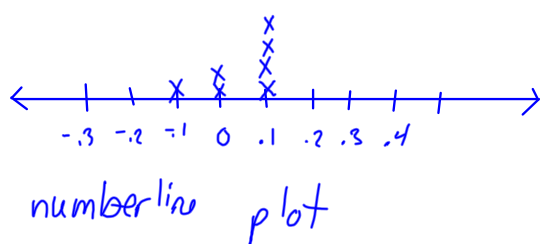
 Σx Sum
$$n = 24$$

$$\begin{array}{r} \overline{00.1} \\ -0.1 \\ \hline 0 0 .1 .4 \end{array}$$

The law of conservation of mass.

- ① Strong statement about the purpose
- back it up with evidence
 - range
 - central tendency
 - variation

- ② Hypothesis
- ③ Explain
- Concepts
 - Apply Concept
- Mass Chemical Reaction Signs of a reaction
- Due Thursday

Change in Mass (g)



1. Lead nitrate, NaI, ionic
 $\text{Pb}(\text{NO}_3)_2$ NaI
 2 1
 2 1
2. ions
3. color change NaCl
 solid formed Na^+ Cl^-
4. double replacement
5. Products - Sodium nitrate, Lead iodide
 NaNO_3 , PbI_2

8 "yield"

Reactants \rightarrow Products



Balance!

9. Soluble 10. insoluble, precipitate